

U.S.S.N. 10/658,708

Claim Amendments

Please amend claims 1, 11, and 21-28 as follows:

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Listing of Claims

1. (currently amended) An apparatus adapted to for dispenseing a liquid onto a substrate frontside and backside during a development process and adjustably controlling liquid flow on said substrate backside during said development process to improve a rinsing step, comprising:

a support adapted to for receiveing the substrate;

a dispensing head adapted to for dispenseing the liquid onto the substrate;

a knife ring having a base and a tapered edge extending upward from said base to form an upper edge, said knife ring vertically adjustably mounted beneath said support; and

a plurality of independently-actuated automatic vertical adjustment mechanisms operably engaging said base of said knife ring, said plurality of independently-actuated automatic vertical (substantially vertical) adjustment mechanisms adapted to for placeing said upper edge of said knife ring at selected vertical positions beneath the substrate during said development process to adjustably control liquid flow on said substrate backside.

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2. (previously presented) The apparatus of claim 1 wherein said plurality of independently-actuated automatic vertical adjustment mechanisms comprise a plurality of fluid-actuated ring actuating cylinders.

3. (previously presented) The apparatus of claim 1 wherein said knife ring has a diameter of about 290 mm.

4. (previously presented) The apparatus of claim 3 wherein said plurality of independently-actuated automatic vertical adjustment mechanisms comprise a plurality of fluid-actuated ring actuating cylinders.

Claims 5-6 (canceled)

7. (previously presented) The apparatus of claim 2 wherein said plurality of fluid-actuated ring actuating cylinders is actuated by pneumatic pressure.

8. (previously presented) The apparatus of claim 7 wherein said knife ring has a diameter of about 290 mm.

Claims 9-10 (canceled)

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11. (currently amended) An apparatus adapted to for dispensing a liquid onto a substrate frontside and backside during a development process and adjustably controlling liquid flow on said substrate backside during said development process to improve a rinsing step, comprising:

a support adapted to for receiveing the substrate;

a dispensing head adapted to for dispensing the liquid onto the substrate;

a knife ring having a base and a tapered edge extending upward from said base to form an upper edge, said knife ring vertically adjustably mounted beneath said support; and

a pair of independently-actuated hydraulic-powered ring actuating cylinders operably engaging said base of said knife ring in generally diametrically-opposed relationship to each other, said pair of independently-actuated hydraulic-powered ring actuating cylinders adapted to for placing said upper edge of said knife ring at selected vertical positions beneath the substrate during a development process to adjustably control liquid flow on said substrate backside.

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12. (previously presented) The apparatus of claim 11 wherein said knife ring has a diameter of about 290 mm.

13. - 20. (canceled)

21. (currently amended) The apparatus of claim 1, wherein said vertical positions are selected from a position facilitating flow of liquid between said upper edge of said knife ring edge and said substrate backside and a position substantially preventing a flow of liquid between said upper edge of said knife ring edge and said substrate backside.

22. (currently amended) The apparatus of claim 21, wherein said position facilitating flow of liquid between said upper edge of said knife ring edge and said substrate backside comprises a gap distance between ~~an~~ said upper edge of said knife ring and said substrate backside of about 1.4 mm to about 1.4 mm.

23. (currently amended) The apparatus of claim 21, wherein said position substantially preventing flow of liquid between said upper edge of said knife ring edge and said substrate backside comprises a gap distance between ~~an~~ said upper edge of said knife ring and said substrate backside to prevent said liquid flow while said

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substrate is rotating.

24. (currently amended) The apparatus of claim 21, wherein said position substantially preventing flow of liquid between said upper edge of said knife ring edge and said substrate backside comprises a gap distance between ~~an~~ said upper edge of said knife ring and said substrate backside of about 0.1 mm to about 0.4 mm.

25. (currently amended) An apparatus adapted to ~~for~~ dispensing a liquid onto a substrate frontside and backside during a development process and adjustably controlling liquid flow on said substrate backside during said development process to improve a rinsing step, comprising:

a support adapted to ~~for~~ receiving the substrate;

a dispensing head adapted to ~~for~~ dispensing the liquid onto the substrate;

a knife ring having a base and a tapered edge extending upward from said base to form an upper edge, said knife ring vertically adjustably mounted beneath said support; and

a plurality of independently-actuated automatic vertical adjustment mechanisms operably engaging said base of said knife ring,

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said plurality of independently-actuated automatic vertical adjustment mechanisms adapted to for placing said upper edge of said knife ring at selected vertical positions beneath the substrate during said development process to adjustably control liquid flow on said substrate backside;

wherein said vertical positions are selected from a position facilitating flow of liquid between said upper edge of said knife ring edge and a substrate backside and a position substantially preventing flow of liquid between said upper edge of said knife ring edge and said substrate backside.

26. (currently amended) The apparatus of claim 25, wherein said position facilitating flow of liquid between said upper edge of said knife ring edge and said substrate backside comprises a gap distance between ~~an~~ said upper edge of said knife ring and said substrate backside of about 1.4 mm to about 1.4 mm.

27. (currently amended) The apparatus of claim 25, wherein said position substantially preventing flow of liquid between said upper edge of said knife ring edge and said substrate backside comprises a gap distance between an upper edge of said knife ring and said substrate backside of about 0.1 mm to about 0.4 mm.

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28. (currently amended) The apparatus of claim 25, wherein said position substantially preventing flow of liquid between said upper edge of said knife ring ~~edge~~ and said substrate backside comprises a gap distance between ~~an~~ said upper edge of said knife ring and said substrate backside to prevent said liquid flow while said substrate is rotating.

29. (previously presented) The apparatus of claim 25 wherein said plurality of independently-actuated automatic vertical adjustment mechanisms comprise a plurality of fluid-actuated ring actuating cylinders.

30. (previously presented) The apparatus of claim 29 wherein said plurality of fluid-actuated ring actuating cylinders is actuated by pneumatic pressure.

31. (previously presented) The apparatus of claim 25 wherein said knife ring has a diameter of about 290 mm.